

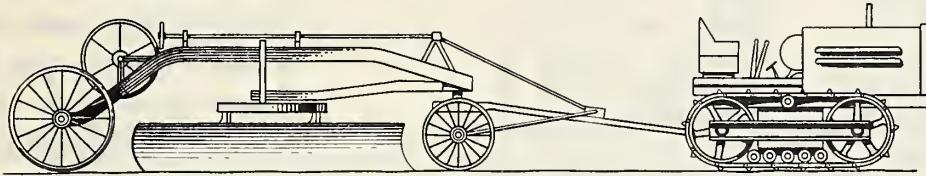
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U. S. DEPARTMENT OF AGRICULTURE

CONSTRUCTION



HINTS

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE
WASHINGTON, D. C.

Vol. 2

November 14, 1936.

No. 21

INCINERATOR

Submitted by Foreman S. F. Layer, Camp S-52 New Jersey

A small incinerator of the type shown on the drawing on Page 2 was constructed for the purpose of safely disposing of waste matter and rubbish of the garage work shop and tool house. The one constructed was made out of odds and ends which no doubt can be found in all camps. The oil drum was one which had several holes in the bottom and so was of no further use as a container of liquids. The bricks were salvaged from an old foundation and the mortar removed from them. With a little care, these old bricks were laid up as neatly as new ones. The foundation was made of these old bricks stood on edge.

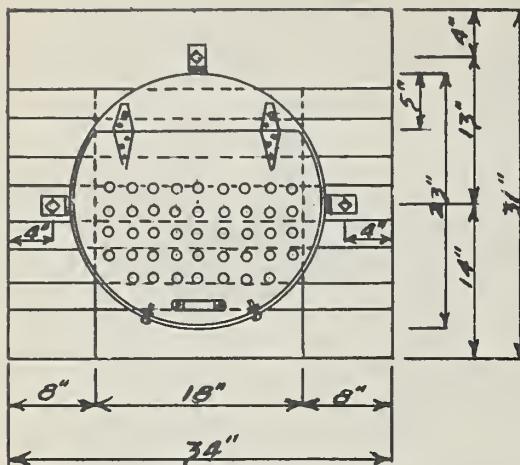
Care must be exercised in the making of the lid. The edges of the part cut out must be filed smooth so as to eliminate the chance of cutting the hands. Because of the curvature, it will also be necessary to shape the lid by filing the edges of the rear half so it will open without binding.

The anchor bolts can be made of 1/2" round stock and bent to the desired shape. Bolts to hold the brackets, handle and stops for the lid may be of any reasonable size available. Any small pair of hinges available will be suitable for the lid and can be riveted in place.

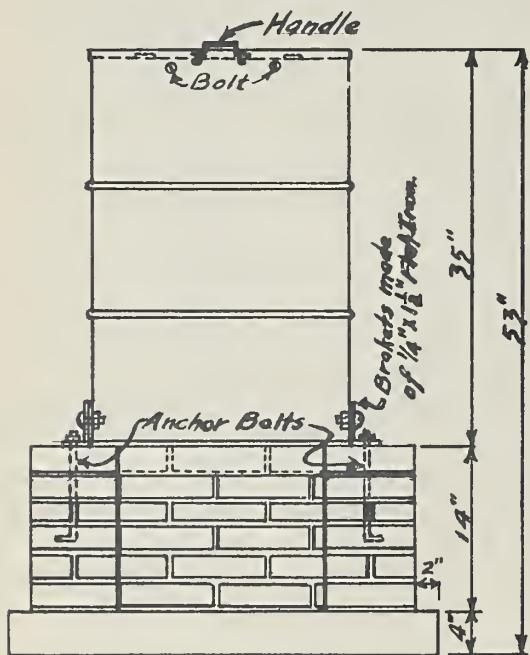
The above incinerator has been in use for some time and has proven very satisfactory.

(over)

INCINERATOR



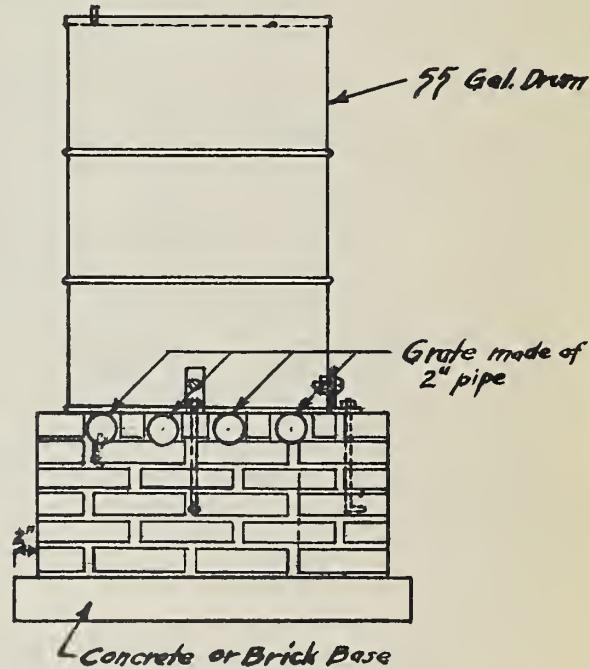
Top View



Front View

Notes:

1. Cut bottom out of drum.
2. Cut top & use for lid.
3. Drill 1" holes, spaced 2"x2" in lid
4. End of grate pipes to be open to allow for expansion
5. Bolts, hinges & handle to be according to what is available.



Side View

The incinerator shown above was constructed from an old oil drum, scrap pipe & bricks salvaged from an old foundation.

Submitted by H.D.Rives & S.F. Layer
CCC Comp 5-52, New Jersey

CUT CONCRETE GUESSWORK WITH SIMPLE SAND TEST

U.S.D.A. Press Release - October 7, 1936.

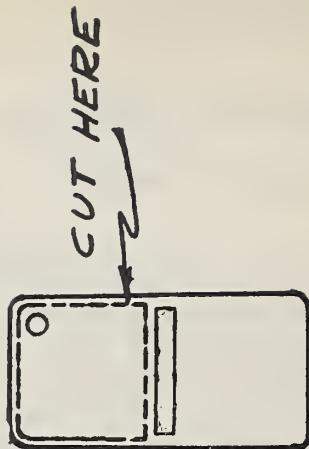
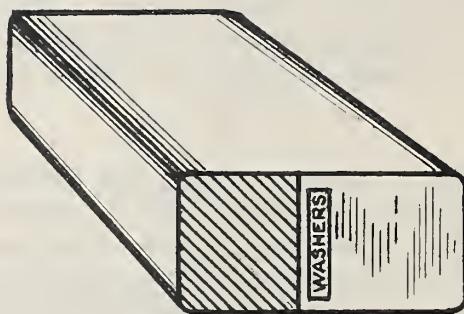
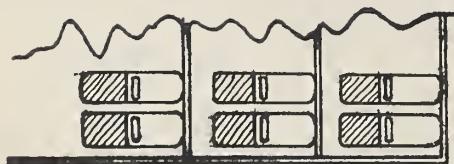
A simple way to determine the amount of "free" water and "adsorbed" water in sand used in a concrete mixture involves the use of a small cone lightly tamped with sand. This method has been developed by the Bureau of Public Roads. Using this test it is easy to produce a condition in which the pore spaces in the sand grains are completely filled with water without any "free" water adhering to the surfaces of the particles. The moisture present when the sand is in this condition is called the "adsorbed" moisture. Any excess over this amount is called "free" moisture. Bureau engineers point out that the test makes possible a much simpler and a more accurate method of making allowance in the water added to a batch of concrete for variations in "free" moisture in the sand. The test is useful both in the laboratory and in field control of concrete mixtures.

It is the so-called "free" moisture in concrete mixtures that dilutes and weakens the cement paste. Only a small part of the water used in mixing concrete is needed for complete hydration of the cement. The rest of the water lubricates the mix so that it may be placed uniformly and without difficulty. Free moisture in sand in unknown quantity upsets the scientific proportioning of concrete.

The test was developed by D. O. Woolf, associate materials engineer in the Bureau. Moist sand containing free water can be shaped into molds by light pressure. Dry sand cannot be molded. After experimenting with cones of many shapes, Mr. Woolf found that sand--lightly tamped into an inverted cone with a top diameter of 1-1/2 inches and a bottom diameter of 3-1/2 inches - contains free moisture if it holds its shape when the cone is removed. At the point where the sand slumps upon removal of the cone, free moisture is gone.

Many methods for determining when sand is surface dry have been suggested, but extensive study by the Bureau has shown that most of these methods are either likely to be inaccurate or so delicate that their use in routine testing is not warranted. The cone test has been adopted by the American Association of State Highway Officials.

STOCK BINS FOR SMALL ITEMS MADE
FROM EMPTY PRESTONE CANS



STOCK BINS FOR SMALL ITEMS SUCH AS NUTS, BOLTS, SCREWS, WASHERS ETC., CAN BE EASILY MADE BY REMOVING ONE HALF OF THE TOPS OF PRESTONE CANS OR SIMILAR CONTAINERS.

THESE UNIFORM BINS CAN THEN BE NEATLY ARRANGED UPON SHELVES AND LABELS PLACED UPON THE HANDLES. INDIVIDUAL BINS MAY BE REMOVED FROM THE SHELVES TO FACILITATE REMOVAL OR REPLACEMENT OF STOCK, AND THE REARRANGEMENT OF BINS MADE NECESSARY BY THE ADDITION OF NEW STOCK ITEMS CAN BE EASILY ACCOMPLISHED.

BIN DESIGNED BY:

SUBMITTED BY:

G.I. Stewart, Director
Michigan Forest Fire Experiment Station

W.B. Edwards
Michigan E.C.W.

RELOCATION GAS TANK AND BATTERY - DODGE - L. C. PICK-UP TRUCKS
 SUBMITTED BY REGION 6 OCTOBER 16, 1936 - SKETCH NO. 012

Region 6 made the change-over shown below on 35 trucks at a cost of only \$12.50 for each truck. They found the problem to be a very simple one in every way, and by actual use of the trucks in the field, the change-over has proven to be successful in every respect. The gas tank and battery are now in a position on where they have much better clearance and very good protection, and the danger of damage to these parts has been entirely eliminated with little expense.

In changing the position of the battery, it was found that the small section cut out of the thin floor section under the driver's seat, did not weaken the cab construction, because the Dodge Company has provided a sturdy structural member which is set crosswise on top of the thin metal floor section. This member is the real backbone of tying and supporting the body at this particular point. Region 6 proved this by applying actual overload stress at this point and the results were exactly the same before and after the small section of the floor was removed to accommodate the battery.

